

# SPS Problem of the Week 10/3/2020-10/10/2020

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**Problem 1.** *Lazy Sketching*

You may have at some point tried to draw the following figure without lifting your pen off of the paper or double crossing any edges.

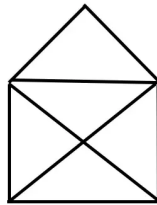


Figure 1:

And if you ever wondered what was so special about this shape, or whether there was anything special at all, which let you draw it this way. You might wonder whether you can draw the following shape in the same manner.

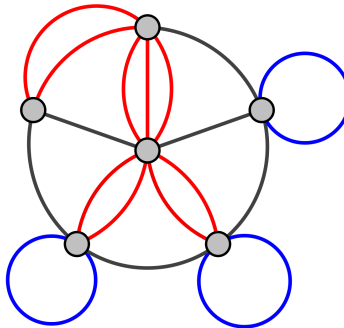


Figure 2:

What you must find out is what properties must a shape made in this way (bunch of points connected by line curves) need in order that it can be drawn without lifting your pen off of the paper or double crossing any of the lines. You can double through vertices of course.